Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

CW#109: Intro to Functions   
Geometry

Monday April 11th, 2016

Part 1: Vocabulary

YWBAT define vocabulary words.

|  |  |  |
| --- | --- | --- |
| Word | Definition | Example or Picture |
| Function |  |  |
| Expression |  |  |
| Equation |  |  |
| Linear |  |  |
| Exponential |  |  |
| Quadratic |  |  |
| Domain |  |  |
| Range |  |  |
| Variable |  |  |
| Constant |  |  |
| Coefficient |  |  |
| Rate of Change |  |  |
| Solution |  |  |
| System of equations |  |  |

Break!

Evaluate if x=2.

|  |  |  |
| --- | --- | --- |
| 1. | 2. | 3. |
| 4. | 5. | 6. |

Part 2: What is a function?

YWBAT define a function.

YWBAT explain the differences between a function and a non-function.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table 1: Hourly pay   |  |  | | --- | --- | | Hours Worked | Payment | | 1 | $10 | | 2 | $20 | | 3 | $30 | | 4 | $40 | | 5 | $50 | | Table 2: Hourly Pay   |  |  | | --- | --- | | Hours Worked | Payment | | 1 | $10 | | 1 | $20 | | 3 | $15 | | 3 | $2 | | 4 | $20 | |

1. What is the rule for Table 1?
2. What is the rule for Table 2?

Functions:

Part 3: Interpreting Functions:

YWBAT determine the input and output of a function given a data table

YWBAT determine the domain and range given a data table or a graph.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EXAMPLE 1: Stephanie decided to make a table to show her allowance over several weeks starting after the 4th week. | |  |  | | --- | --- | | Weeks | Allowance | | 4 | 63 | | 5 | 72 | | 6 | 81 | | 7 | 90 | |
| 1. Explain how much Stephanie receives for her allowance? 2. Explain what the entry (5, 72) means? 3. How much money did Stephanie have after the first week? 4. How much money did Stephanie have before she started receiving an allowance? 5. What is the domain of the function? 6. What is the range of the function? 7. Is the full domain/ range displayed in the graph? | |

|  |  |  |
| --- | --- | --- |
| EXAMPLE 2: Adam has $10 in his wallet when he goes to school on Monday morning. Each day he spends $2 on his lunch at school. If Adam does not spend his money on anything else.  5(a) What is the domain of the function based on the situation?  5(b) What is the range of the function based on the situation? | | |
| 6. If we refer to the amount of money Adam has in his wallet as f(x) and the number of days as x. Write the meaning AND find the value of the following: | | |
| (a) f(2) | (b) f(5) | (c) f(6) |

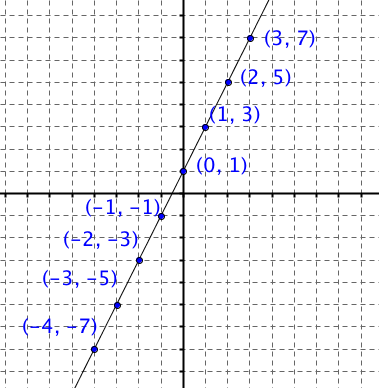
|  |
| --- |
| EXAMPLE 3: Look at the function and graph below. Explain why the domain of the function is x>0. |

Part 4: Evaluating Functions

YWBAT evaluate output of a function given input values..

Directions. For each of the following functions:

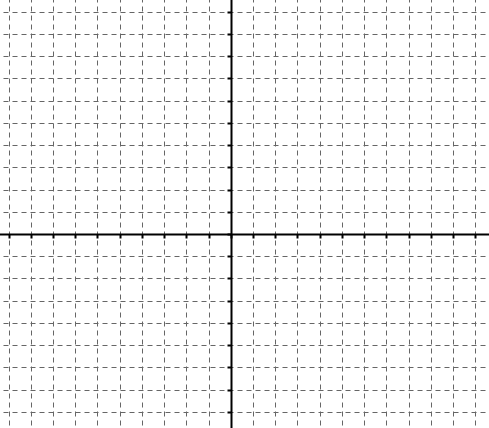
1. Evaluate the function for the specified values in the table.
2. Graph the function and label each point.
3. Find the Domain and Range of each function.

Ex. 

|  |  |  |
| --- | --- | --- |
| *x* |  | *g*(x) |
| -4 |  | -7 |
| -3 |  | -5 |
| -2 |  | -3 |
| -1 |  | -1 |
| 0 |  | 1 |
| 1 |  | 3 |
| 2 |  | 5 |
| 3 |  | 7 |

Domain: All values of *x*

Range: All values of *y*

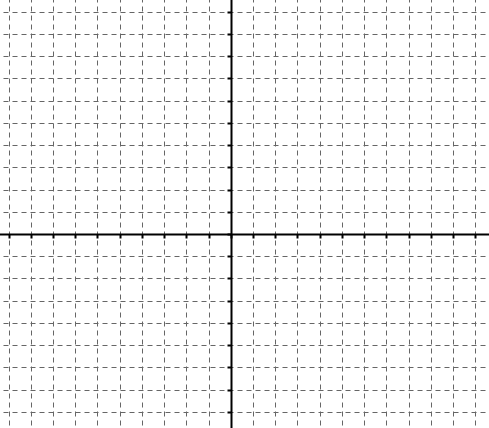


1) 

|  |  |  |
| --- | --- | --- |
| *x* |  | *f*(x) |
| -5 |  |  |
| -3 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

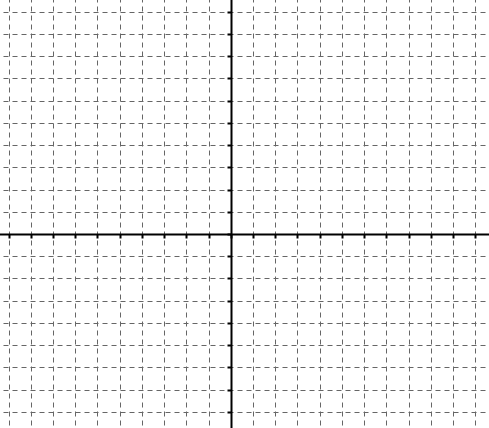


2) 

|  |  |  |
| --- | --- | --- |
| *x* |  | *h*(x) |
| -1 |  |  |
| -0 |  |  |
| 1.5 |  |  |
| 2 |  |  |
| 3 |  |  |
| 3.75 |  |  |
| 4 |  |  |

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



3) 

|  |  |  |
| --- | --- | --- |
| *x* |  | *r*(x) |
| -3 |  |  |
| -2 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Think…In your opinion, which of these functions has the most interesting shape?

(1)  (2)  (3) 

Why?